

AMENDMENT AND RESPONSE

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Serial No.: 09/846,795

Filing Date: May 1, 2001

Attorney Docket No. 125.013US02

Title: BONDED SUBSTRATE FOR AN INTEGRATED CIRCUIT CONTAINING A PLANAR INTRINSIC GETTERING ZONE

REMARKS

Claims 24, 26, 28 and 38 have been amended. Claims 24-44 and 46-48 are pending in this application.

Interview

Applicant thanks Examiner Sarkar for the teleconference on September 17, 2003. The element of an undamaged monocrystalline semiconductor material was discussed. Applicant explained the difference of undamaged monocrystalline semiconductor material and the monocrystalline material disclosed in the Henley reference. Examiner Sarkar suggested further amendments to further distinguish the undamaged monocrystalline semiconductor layer from the monocrystalline semiconductor layer of the Henley reference. Applicant has incorporated the Examiner's suggestions in the present amendment and response.

Rejection Under 35 U.S.C. § 102

Claims 24-29, 31, 35-38, 40, 41 and 46-48 were rejected under 35 U.S.C. §102(e), as being anticipated by Henley (US 6,083,324). A 102 (e) rejection requires a single reference teach every element of a claim in questions.

In regards to independent Claims 24, 26, 28 and 38, applicant has amended said claims to further distinguish the undamaged monocrystalline semiconductor material from the Henley reference. In particular, independent Claims 24, 26, 28 and 38 as amended, describe a second layer of "undamaged by implantation monocrystalline semiconductor material." The Henley reference does not teach or suggest a second layer of "undamaged by implantation monocrystalline semiconductor material," as is disclosed and claimed in independent Claims 24, 26, 28 and 38 of the present application.

In particular, the Applicant respectfully traverses the Examiners assertion that "[t]he Henley's device is indistinguishable from that of the Applicant since the heating step in forming

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Henley's device will restore the damage caused by the implantation converting it to undamaged monocrystalline semiconductor material (see column 5, lines 4-14)." There is no cleaner (i.e. free of defects) layer of monocrystalline than one that has not been implanted through. The Henley reference acknowledges this in Column 5 lines 12-14 by stating "[h]igh-temperature annealing also **generally reduces** the dislocations, stacking faults and other crystal imperfections..." emphasis added. As amended, each of the independent claims in the present application includes the element of a layer of undamaged by implantation monocrystalline semiconductor material. This is achieved by inverting the device wafer after the gettering zone is formed. Please refer to Figure 3 and the description on page 7, lines 3 -9 of the present application. This provides a layer of undamaged by implantation monocrystalline semiconductor material 16 formed between the gettering zone 17 and the elements of the semiconductor device 40. Please see Figure 4 and the description of Figure 4 on page 7 line 27 through Page 14 of page 8. Having the layer of undamaged by implantation monocrystalline semiconductor material achieves an advantage of providing a semiconductor substrate with electrical characteristics that are substantially unchanged by the formation of the gettering zone. As stated above, the Henley reference does not teach or suggest an "undamaged by implantation monocrystalline semiconductor material," as is disclosed and claimed in independent Claims 24, 26, 28 and 38 of the present application. Therefore, since not every element of the independent claims is taught by the Henley reference, a 102 rejection is improper.

Accordingly, the Applicant respectfully requests the withdrawal of the rejections of independent claims 24, 26, 28 and 38 under 35 U.S.C. § 102(e). In addition, since independent Claims 25, 26, 29-37, 39-44 and 46-48 depend from and further define their respective patentably distinct independent claim, Applicant believes these dependent claims are also allowable and respectfully request the withdraw of their rejections. Since the Applicant believes said dependent claims are allowable for the above reasons, further arguments have not been put forth at this time addressing any other rejections. Applicant however, reserves the right to address said other rejections if a further response is required.

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CONCLUSION

Applicant respectfully submits that the claims 24- 44 and 46-48 are in condition for allowance. If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 332-4720, ext. 227.

Please charge any additional fees or credit any overpayments to Deposit Account No. 502432.

Respectfully submitted,

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